

REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-5 and 16-25 are pending in the present application; with Claims 1-4 amended and Claims 16-25 added by the present amendment.

In the Official Action, Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallentin (U.S. Patent No. 6,347,091) in view of Quick (U.S. Patent No. 5,673,259); Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallentin and Quick in view of Applicant's Admitted Prior Art; and Claims 3-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallentin and Quick in view of Kumar (U.S. Patent No. 6,418,148).

Applicants acknowledge with appreciation the personal interview between the Examiner and Applicants' representative on November 18, 2005. During the interview, the claimed invention was contrasted with the applied references. The Examiner acknowledged that Applicants' arguments, reproduced below, distinguished the then pending claims from the portions of Wallentin identified in the Official Action, as well as from Quick.

However, while acknowledging that base station parameters are primarily described in the cited portions of Wallentin as being a basis for selecting/changing a channel, thus differing from Applicants' claimed invention, the Examiner pointed to the specification sections discussing Figure 5 of Wallentin. These sections appear to disclose that a status of the uplink queue in the mobile can be used to select a channel. The Examiner indicated that Applicants' arguments may distinguish the claims from Wallentin. However, the Examiner requested that Applicants provide further comments on how the invention distinguishes from Figure 5 of Wallentin. In response, Claim 1 (as well as Claims 16 and 21, corresponding to

original Claims 6 and 11) now recite a detecting an increase or decrease in traffic data as well as carrying out an admission judgment for a shift to the individual channel.

Also, during the interview the Examiner offered that the previous restriction had been issued in error. As recommended by the Examiner, Claims 16-25, corresponding to original Claims 6-15, are added herewith, albeit modified as described above.

Briefly recapitulating, Claim 1 is directed to a traffic control method for mobile data communications in a mobile communications system of a scheme using spread signals including CDMA, where two types of communications channels including a common channel and a plurality of individual channels are provided such that the common channel is set to be used by the plurality of users together and each individual channel is set to be used exclusively by one user. The traffic control method includes a step of carrying out a communication using the common channel between a mobile radio terminal and a radio base station. The method also includes detecting an increase or a decrease of data traffic *at the mobile radio terminal* during the communication as well as carrying out an admission judgment for a shift from the common channel to the individual channel at the radio base station or the mobile radio terminal when the increase in data traffic at the mobile radio terminal is detected. The method also includes shifting from the communication using the common channel to the communication using the individual channel between the mobile terminal and the radio base station when an admission of the shift is possible.

Wallentin describes a mobile communications control method where the state of a connection is used to specify one of plural different types of radio channels bearing the connection over the radio interface. The connection is dynamically adapted to an optimal state based on one or more conditions relating to the connection. Based on a predicted parameter value, an optimal connection state is determined and implemented. If the predicted parameter value changes later in the connection, another connection state may be

dynamically selected that is better suited in accordance with a newly predicted parameter value.<sup>1</sup>

In particular, Wallentin describes a generic UMTS core network node 16 that includes a packet router 100, a packet buffer 102 and a packet window buffer 104.<sup>2</sup> As the amount of data in the packet buffer 102 buries, channels are assigned or reassigned to accommodate data flow.<sup>3</sup> In another embodiment, a packet arrival rate or packet density for a particular packet connection at the base station is used to predict future packet flow. Other parameters such as connection bit rate, the current number of idle devices like receivers in each base station, the current of idle spreading codes, etc., may also be used to determine a predicted packet flow. Depending on the newly predicted packet flow, the selected channel type and/or mobility management scheme may be changed several times for a connection.<sup>4</sup>

In another embodiment of Wallentin, after a last amount of data to be sent is transmitted (e.g., the base station transmit queue is empty), a predefined time period is monitored. If a new data packet is not received at the end of that predetermined time period, the dedicated channel is released and a new shared channel is allocated to the connection.<sup>5</sup>

However, as noted in Applicant's previously filed response, Wallentin does not disclose or suggest Applicant's claimed step of carrying out an admission judgment for a shift from the common channel to the individual channel at the radio base station or the mobile terminal, when a communications traffic *at the mobile radio terminal* is shifting from a sparse state to a dense state during the communication. That is, all the traffic monitoring disclosed by Wallentin for use in determining whether or not to shift from a common channel to an individual channel is measured *at the base station, not at the mobile*.

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<sup>1</sup> Wallentin, Abstract.

<sup>2</sup> Wallentin, column 7, lines 10-22.

<sup>3</sup> Wallentin, column 7, line 63 through column 8, line 14.

<sup>4</sup> Wallentin, column 9, lines 12-27.

<sup>5</sup> Wallentin, column 10, lines 1-17.

That is, in Applicant's claimed invention, *when the mobile radio terminal* detects an increase of data traffic at the mobile radio terminal during a data communications using the common channel, *the mobile radio terminal* makes an allocation request for an individual channel to the radio base station. The radio base station judges whether or not the allocation of the individual channel is possible in response to this request. When it is judged that a shift to the individual channel is not possible as traffic in the service area is large, the base station transmits an individual channel allocation impossible response to the mobile radio terminal. Upon receiving this response, the mobile radio terminal sets a timer and repeats its request at the expiration of the timer. If the radio base judges the allocation is possible, the base station transmits an individual channel allocation accepted response.<sup>6</sup> Thus, unlike in Wallentin, in Applicants' claimed invention it is traffic at the mobile that is determinative regarding a shift of channels.

Regarding Figure 5 of Wallentin discussed during the interview of November 18, 2005, this unapplied portion of Wallentin does not disclose or suggest detecting an increase or a decrease of data traffic at the mobile radio terminal during the communication; or carrying out an admission judgment for a shift from the common channel to the individual channel at the radio base station or the mobile radio terminal, when the increase in data traffic at the mobile radio terminal is detected.

Quick describes a mobile radio communications system having an ability to switch from a random access channel to a dedicated channel when bandwidth demands exceed a first threshold and switching from the dedicated channel to the random access channel when the bandwidth demand drops below a second threshold.<sup>7</sup> With reference to Figure 3, Quick describes a processor 302 located in switching station 110 which may be provided and a control switching between the dedicated channel 214 and the random access channel 208.

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<sup>6</sup> Specification, page 12, lines 11-26.

<sup>7</sup> Quick, Abstract.

Typically, a switching station 110 collects communications information 306a through 306n from the respective base station units 108a through 108n. The bandwidth demand, which is included in communications information 306a to 306n is then used by the processor 302 to determine when switching between the dedicated channel 214 and random access channel 208 is appropriate for each mobile station associated with base stations 108a through 108n. Alternatively, processor 302 may determine if all of the mobile stations are to switch simultaneously from dedicated channel 214 to random access channel 208 and vice versa.<sup>8</sup>

However, like Wallentin, in Quick the traffic monitoring used to make a judgment about switching is performed *at the base station* and not at the mobile station as recited in Claim 1.

MPEP §706.02(j) notes that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Without addressing the first two prongs of the test of obviousness, Applicants submit that the Official Action does not present a *prima facie* case of obviousness because both Wallentin and Quick fail to disclose all the features of Applicants' claimed invention.

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<sup>8</sup> Quick, column 11, lines 5-19.

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Reply to Office Action of September 14, 2005

Accordingly, in view of the present amendment and in light of the previous discussion, Applicant respectfully submits that the present application is in condition for allowance and respectfully requests an early and favorable action to that effect.

Respectfully submitted,

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